

**REMARKS**

Entry of this amendment, reconsideration of all grounds of rejection in the Final Office Action, and allowance of the pending claims are respectfully requested in light of the above amendments and the following remarks. Claims 1-15, as amended, remain pending herein.

At the outset, Applicant notes with appreciation the indication in the Final Office Action that claims 11-13 would be allowable if rewritten to include all the limitations of their base claim. Claim 11 has been amended in this manner, and as claims 12 and 13 depend directly from claim 11, it is respectfully submitted that these claims are in condition for allowance.

**Summary of the Objections and Rejections:**

(1) Claims 11-13 are indicated as being allowable if the subject matter of said claims is rewritten as an independent base claim.

(2) Claims 1-10 and 14-15 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Bird (U.S. 5,721,422).

**Applicant's Traversal:**

(1) The amendment to claim 11 results in claims 11-13 being in immediate condition for allowance.

(2) Applicants have amended claims 1 and 6 to recite that wherein only two connections to the diode clamp control switching of the respective input line. Support for this feature is found in the specification at least at page 3, lines 8-11. Applicants have also amended claim 1 to clarify that "each input line is connected only to the isolation

means and to a point between said first and second clamp diodes." It is shown in Fig. 1, for example, that the only a single clamp circuit receives the input current.

In contrast, the device elements (8) disclosed by Bird "share a column conductor (11)" (Abstract). This configuration is necessary in Bird because instead of having device elements having opposite orientations, the reference teaches arranging two pairs of elements sharing a single input and orientated in different positions. Thus, unlike the teachings of the present invention, there is not a reduction of switching circuitry and/or offset current because only a single diode clamp controls the flow of the current input. Bird requires additional circuitry and shares the input line among the neighboring columns.

For at least the above reasons, none of the instant claims are anticipated by Bird, as the reference fails to disclose every claimed feature taught by the reference. Nor would a person of ordinary skill in the art have found any of the instant claims obvious at the time of invention with knowledge of Bird. Reconsideration and withdrawal of this ground of rejection is respectfully requested.

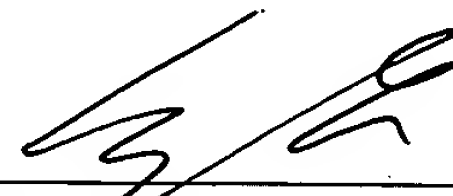
For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Should the Examiner deem that there are any issues that may be best resolved by telephone, please contact Applicant's representative at the number listed herein below.

Respectfully submitted,

Aaron Waxler  
Registration No. 48,027

Date: April 22, 2003

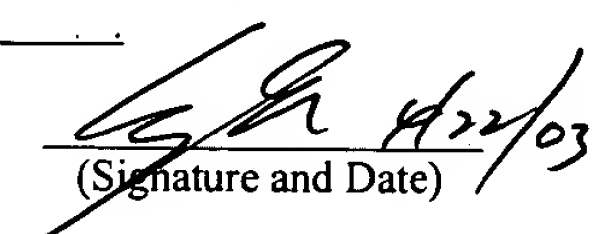
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 4/22/03  
(Signature and Date)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANT: Neil C. Bird  
SERIAL NO.: 09/741,673 EXAMINER: L. Nguyen  
FILED: December 19, 2000 ART UNIT: 2816  
FOR: DIODE MULTIPLEXER CIRCUIT AND ELECTRONIC  
DEVICE INCORPORATING THE SAME

Assistant Commissioner for Patents  
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Washington, DC 20231

**MARKED VERSION SHOWING CHANGES MADE**

Dear Sir:

In response to the Final Office Action dated March 26, 2003, the Applicant hereby requests amendment of the above-identified application as follows:

**IN THE CLAIMS:**

Please amend the claims as follows:

1. (Twice Amended) A multiplexer circuit for switching a selected one of a plurality of current inputs carried by respective input lines to a common output, said circuit comprising, for each respective input line:

a diode clamp including first and second clamp terminals and first and second clamp diodes arranged in series with the same polarity between said clamp terminals; and  
isolation means provided between each respective input line and said common output,

wherein each input line is connected only to the isolation means and to a point between said first and second clamp diodes, and

wherein said diode clamp is operable in two modes, a first mode in which voltages are applied to said clamp terminals such that said diodes of said diode clamp are forward biased and hold said input line at a first voltage which prevents a passage of current from said input line to said common output, and a second mode in which the voltages are applied to said clamp terminals such that said diodes of said diode clamp are reverse biased and said passage of said current from said input line to said common output is allowed, and

wherein only two connections to the diode clamp control switching of the respective input line.

6. (Twice Amended) An electric device comprising:

an array of charge storage elements that are arranged in rows and columns and which are coupled to row and column conductors, said column conductors being arranged in at least one group, each group having a respective common output;

a multiplexer circuit for switching a selected one of a plurality of current inputs carried by respective input lines to said common output, said multiplexer circuit having, for each input line, a diode clamp with first and second clamp terminals and first and second clamp diodes arranged in series with the same polarity between said clamp terminals; and isolation means between each input line and said common output, wherein each input line is connected to the isolation means and to a point between said first and second clamp diodes, and wherein said diode clamp operates in a first mode in which voltages are applied to the clamp terminals such that said diodes of said diode clamp are forward biased and hold a first voltage that prevents the passage of current from said input line to said common output, and a second mode in which said diodes of said diode clamp are reverse biased allowing for the passage of a current from said input line to said common output, said multiplexer circuit couples said column conductors of said respective groups to said respective common output; and

a charge measurement device that measures a flow of charge from said common output; and

wherein only two connections to the diode clamp control switching of the respective input line.

11. (Amended) [The electronic device of claim 6,]

An electric device comprising:

an array of charge storage elements that are arranged in rows and columns and which are coupled to row and column conductors, said column conductors being arranged in at least one group, each group having a respective common output;  
a multiplexer circuit for switching a selected one of a plurality of current inputs carried by respective input lines to said common output, said multiplexer circuit having, for each input line, a diode clamp with first and second clamp terminals and first and second clamp diodes arranged in series with the same polarity between said clamp terminals; and isolation means between each input line and said common output, wherein each input line is connected to the isolation means and to a point between said first and second clamp diodes, and wherein said diode clamp operates in a first mode in which voltages are applied to the clamp terminals such that said diodes of said diode clamp are forward biased and hold a first voltage that prevents the passage of current from said input line to said common output, and a second mode in which said diodes of said diode clamp are reverse biased allowing for the passage of a current from said input line to said common output, said multiplexer circuit couples said column conductors of said respective groups to said respective common output; and

a charge measurement device that measures a flow of charge from said common output;

wherein said charge storage elements comprise capacitive pixels having two diodes and a variable capacitor, the current measurement being used to determine the capacitance.